

Bytewise-fellowship

Data Science

Task2:

What is Git?

Git is a distributed version control system that allows developers to keep track of changes to code over time. It was created by Linus Torvalds in 2005 as a tool to help manage the development of the Linux kernel. Since then, it has become one of the most widely used version control systems in the world.

What is GitHub?

GitHub is a web-based hosting service for Git repositories. It was created in 2008 and has since become the most popular Git hosting service in the world. GitHub provides a number of features that make it easy for developers to collaborate on projects, such as pull requests, issues, and wikis.

What is Git Branching?

Git branching is a technique in Git that allows developers to create multiple versions of their codebase, known as branches. Each branch is essentially a snapshot of the project's codebase at a specific point in time. Developers can create branches to experiment with new features or ideas without affecting the main codebase.

What is Git Merging?

Git merging is a process in version control systems, specifically Git, where changes from different branches are combined into a single branch. It is an essential feature that allows multiple developers to work on different parts of a project simultaneously, and then integrate their changes into the main codebase.

Screenshots:

```
MINGW64:~/Cisco Packet Tracer 8.0/Desktop/Git Project
Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git init
Initialized empty Git repository in C:/Users/Hassii/Cisco Packet Tracer 8.0/Desktop/Git Project/.git/

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        file1.txt
        file2.txt

nothing added to commit but untracked files present (use "git add" to track)

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git add .

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   file1.txt
        new file:   file2.txt

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git commit -m "First Commit"
Author identity unknown

*** Please tell me who you are.

Run

  git config --global user.email "you@example.com"
  git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: unable to auto-detect email address (got 'Hassii@DESKTOP-50Q7NJT.(none)')
```

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```
Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git config --global user.email "mhassan242002@gmail.com"

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git config --global user.name "Hassan"

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git commit -m "First Commit"
[master (root-commit) 555aa01] First Commit
2 files changed, 2 insertions(+)
create mode 100644 file1.txt
create mode 100644 file2.txt

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git checkout -b DataScience
Switched to a new branch 'DataScience'

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (DataScience)
$ git status
On branch DataScience
nothing to commit, working tree clean

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (DataScience)
$ git add .

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (DataScience)
$ git commit -m "Hello"
On branch DataScience
nothing to commit, working tree clean

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (DataScience)
$ git status
On branch DataScience
nothing to commit, working tree clean

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (DataScience)
$ git checkout master
Switched to branch 'master'

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (master)
$ git checkout DataScience
Switched to branch 'DataScience'

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (DataScience)
$ git branch
* DataScience
  master
```

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```
Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (DataScience)
$ https://github.com/M-Hassan896/Data-Science-BWF-Muhammad_Hassan.git
bash: https://github.com/M-Hassan896/Data-Science-BWF-Muhammad_Hassan.git: No such file or directory

Hassii@DESKTOP-50Q7NJT MINGW64 ~/Cisco Packet Tracer 8.0/Desktop/Git Project (DataScience)
$ git clone https://github.com/M-Hassan896/Data-Science-BWF-Muhammad_Hassan.git
Cloning into 'Data-Science-BWF-Muhammad_Hassan'...
remote: Enumerating objects: 17, done.
remote: Counting objects: 100% (17/17), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 17 (delta 2), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (17/17), 84.10 KiB | 371.00 KiB/s, done.
Resolving deltas: 100% (2/2), done.
```

The screenshot shows a web browser window with multiple tabs. The active tab is the GitHub repository page for 'Data-Science-BWF-Muhammad_Hassan' by user 'M-Hassan896'. The page displays the repository's file structure, including 'Task1_Task3', 'Task2', and 'README.md'. The 'README.md' file is open, showing the repository name 'Data-Science-BWF-Muhammad_Hassan'. The right sidebar contains sections for 'About', 'Releases', 'Packages', and 'Languages'. The 'About' section states 'No description, website, or topics provided.' The 'Releases' section indicates 'No releases published'. The 'Packages' section indicates 'No packages published'. The 'Languages' section shows 'HTML 100.0%'. At the bottom, there is a 'Suggested workflows' section. The browser's address bar shows the repository URL: 'github.com/M-Hassan896/Data-Science-BWF-Muhammad_Hassan'. The browser's taskbar on the left shows various application icons, including the Start menu, File Explorer, and several social media and utility apps. The system tray at the bottom left shows the date and time: '11:26 AM 6/16/2024'.

New repository

Q Type to search

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere?
[Import a repository.](#)

Required fields are marked with an asterisk (*).

Owner *

Repository name *

M-Hassan896

Data-Science-BWF-Muhar

Great repository names are short and memorable. Need inspiration? How about [probable-fortnight](#) ?

Description (optional)

Public

Anyone on the internet can see this repository. You choose who can commit.

Private

You choose who can see and commit to this repository.

Initialize this repository with:

☐ Add a README file

This is where you can write a long description for your project. [Learn more about READMEs.](#)

Add .gitignore

.gitignore template: None

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

Choose a license

License: None

A license tells others what they can and can't do with your code. [Learn more about licenses.](#)

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Git Project

File Home Share View

← → ↑

This PC > Desktop > Git Project

Search Git Project

Name	Date modified	Type	Size
.git	6/16/2024 11:19 AM	File folder	
Data-Science-BWF-Muhammad_Hassan	6/16/2024 11:24 AM	File folder	
file1	6/16/2024 11:08 AM	Text Document	1 KB
file2	6/16/2024 11:08 AM	Text Document	1 KB

Full-screen Snip

4 items

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Windows logo

Search

Task View

Home

Calendar

Weather: 37°C

Time: 11:30 AM, 6/16/2024

System tray

File Explorer

Home

Share

View

Address bar: This PC > Desktop > Git Project > Data-Science-BWF-Muhammad_Hassan

Search: Data-Science-BWF-Muhammad_Hassan

Left sidebar: Quick access, Desktop, Downloads, Documents, Pictures, This PC, flask app, ISIC_0012258.jpg, Local Disk (E:), test_images, OneDrive - University, This PC, 3D Objects, Desktop, Documents, Downloads, Music, Pictures, Videos, Local Disk (C:), Local Disk (D:), Local Disk (E:), Network, Linux

Name	Date modified	Type	Size
.git	6/16/2024 11:24 AM	File folder	
Task1_Task3	6/16/2024 11:24 AM	File folder	
Task2	6/16/2024 11:24 AM	File folder	
README	6/16/2024 11:24 AM	Markdown Source...	1 KB

4 items

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Windows logo